

19. Elaborately discuss about the mass multiplication of phosphate solubilizing microbes.
20. Elaborately discuss about the mass inoculum production of VAM.

APRIL/MAY 2023

**CEMB64A — BIOINOCULANTS
TECHNOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define bio fertilizers.
2. What are known as bioinoculants?
3. Define Rhizosphere.
4. What do you understand by the term associative symbiosis?
5. Give an example of non-leguminous crop symbiosis.
6. Give any two *Azolla* species in India.
7. Comment on phosphate solubilising bacteria.
8. Comment on phosphatases.
9. What do you understand the term hartig net?
10. Tell about ectendo mycorrhizae.



SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain in detail about the mass production of *Azotobacter*.

Or

- (b) Explain the taxonomic characters of *Azospirillum*.

12. (a) Discuss the isolation and characterization of *Rhizobium*.

Or

- (b) Give an account on non-leguminous crop symbiosis.

13. (a) Discuss the method of isolation of *Azolla-Anabaena*.

Or

- (b) Explain in detail about field application of *Azolla*.

14. (a) Elaborately explain about mode of action PSM's.

Or

- (b) Give an account on applications of PSM's and its significance.

15. (a) Elaborately discuss about mycorrhizal inoculants.

Or

- (b) Explain the method of applications of Ectomycorrhizae and VAM.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Elaborately discuss about the isolation of non-symbiotic nitrogen fixers and explain its significance.
17. Describe about isolation and characterization of Frankia.
18. Elaborately explain about characterization and mass multiplication of *Azolla*.